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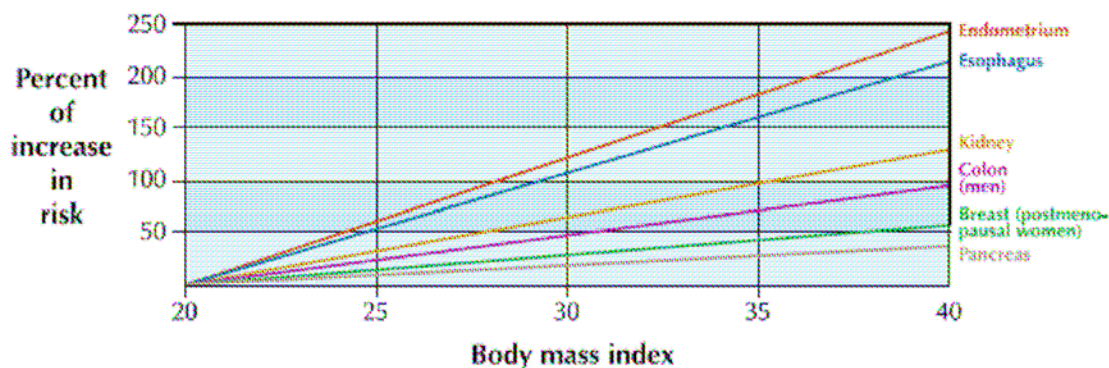
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## CANCER AND WEIGHT ... A GROWING PROBLEM

A generation ago, Americans were much leaner, and scientists were just beginning to understand that being overweight or obese might be a factor that could increase cancer risk. Since then, our collective waistline has rapidly expanded. It's now estimated that over one-third of Americans are overweight, and another third are obese. This has made obesity-related cancer much more prevalent. Researchers estimate that 14 percent of cancer deaths in older men — and 20 percent of cancer deaths in older women — can be attributed to excess body fat. If you're overweight or obese, avoiding further weight gain and losing some weight might help you reduce your risk of cancer. As a bonus, the two major components of weight loss, a healthy diet and exercise, appear to be excellent ways to reduce cancer risk.

### WHAT'S AT STAKE

The chart below summarizes some of the most well established research on how excess weight in the form of body fat affects your risk of certain cancers. Emerging research suggests that being overweight or obese may also increase your risk of gallbladder, liver, ovary or thyroid cancers, as well as possibly increase risk of developing leukemia, multiple myeloma or certain types of lymphoma. In addition, overweight and obese people with breast, colon or prostate cancer are more likely to have more aggressive or more advanced cancers, are more likely to have a recurrence and, therefore, are more likely to die of the cancer than are their leaner counterparts.



This chart depicts the increase in risk of certain cancers with higher body mass index numbers. It's based on data from a Feb. 16, 2008, article in the journal *The Lancet*.

### WHY THE WEIGHT?

It's not fully understood why excess body fat increases your risk of cancer. But several leading theories are related to:

- **Insulin.** Body fat isn't simply storage space for excess energy. It's a metabolically active substance that can have far-reaching effects on the complex chemistry within your body, particularly when it comes to hormones. Insulin, which is produced by the pancreas, is one such hormone. Simply put, obesity and inactivity generally lead to higher levels of insulin circulating in your blood. Excess insulin is believed to fuel

growth of cancer cells. In addition, it increases circulating levels of other hormones that likely play a role in cancer development and growth, such as insulin-like growth factor-I (IGF-I) and estrogen.

■ **Estrogen.** Adding to insulin's influence on estrogen levels, fat tissue also produces this hormone. In fact, estrogen levels are 50 percent to 100 percent higher in postmenopausal women who are overweight versus those who are lean. It's believed that this alteration increases the risk of estrogen-sensitive cancers such as certain types of breast cancer and cancer of the uterine lining (endometrium).

■ **Immune system.** Excess fat is thought to release proteins that may suppress the immune system and increase inflammation, both of which may play a role in cancer development and progression.

■ **Other risks of obesity.** Obesity-related problems such as acid reflux, high blood pressure, gallstones and fatty liver may damage tissues of the esophagus, kidney, gallbladder and liver, respectively. This may set the stage for cancer development.

■ **Poor food choices and less exercise.** Eating a high-fat diet, particularly one with high amounts of red meat or processed meat, and being sedentary may contribute to cancer risk.

## DOUBLE DUTY

Although there's evidence that gaining weight increases your risk of cancer, there has been almost no research that demonstrates whether losing weight will reduce the risk of developing cancer. But even if weight loss confers no reduction of cancer risk, the tactics you'll employ to lose weight might. These include:

■ **Exercising.** This strengthens the immune system, improves circulation, reduces body fat (particularly in the abdominal area) and speeds digestion, each of which plays a role in preventing cancer.

■ **Eating a plant-based diet.** Fruits, vegetables, legumes and whole-grain foods are loaded with phytochemicals that appear to offer some protection against cancer. Antioxidants are one kind of phytochemical. These play a role in inhibiting molecules called oxygen free radicals, which can damage healthy cells. These foods are also high in fiber, which may help reduce risk of colon cancer. If your diet is centered on plant-based foods, you'll naturally be eating less fat, red meat and processed meats.

■ **Limiting alcohol.** Limiting or avoiding this source of hidden calories can help minimize your risk of cancer, particularly those of the breast, mouth and esophagus.

### Apple versus pear

Increases in fat anywhere in the body raise the risk of many types of cancer. But if much of your fat is located around the organs in the abdomen — often giving you more of an "apple" shape — you may be more at risk, especially of colon cancer, than are those with a "pear" shape, who have much of their fat below the waist.